



Atty. Dkt. No. 017346-0181

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Francois BACCELLI et al
Title: CONTROLLING LOADS IN THE UPLINK DIRECTION FOR WIRELESS COMMUNICATIONS SYSTEMS WITH POWER CONTROL
Appl. No.: 10/825,630
Filing Date: 4/16/2004
Examiner: Muthuswamy Ganapathy Manoharan
Art Unit: 2617
Confirmation Number: 7864

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the New **Pre-Appeal Brief Conference Pilot Program**, announced July 11, 2005, this Pre-Appeal Brief Request is being filed together with a Notice of Appeal.

REMARKS

The following rejections are being presented for review. Claims 1-7, 11-17, and 21 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2004/0209624 ("Rune"). Claims 8-10 and 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rune and in view of U.S. Patent Publication No. 2002/0193118 ("Jain").

Claim Rejections under 35 U.S.C. § 102

Applicants respectfully traverse the rejection under 35 U.S.C. § 102 for the reasons set forth below. Applicants rely on M.P.E.P. § 2131, entitled “Anticipation – Application of 35 U.S.C. § 102(a), (b) and (e)” which states, “a claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Applicants respectfully submit that Rune does not describe each and every element of independent claims 1 and 11.

Claim 1 recites a control device for a wireless communications network having a plurality of base stations and a plurality of mobiles. The control device includes a calculator of quantities related to attenuations measured between mobiles and base stations, and/or to the signal to interference and noise ratio threshold and a decision device with regard to the processing of new candidate mobiles. The decision device and calculator operate together according to a predefined mechanism. **For each mobile served** by the base station and **for each new candidate mobile to the base station** the mechanism includes **a load calculation function capable of calculating the load induced by said mobile to the base station**, as a sole function of the quantities output by the calculator, and an evaluation of a load condition associated to the base station, as a function of the loads calculated for the mobiles served by the base station and candidates to the base station, the load condition representing the feasibility of the power allocation to the mobiles by the base station. Claim 11 is directed toward a control method for a wireless communications network having a plurality of base stations and a plurality of mobiles. For at least one given base station, the method calculates a load for each mobile served by the base station and for each new candidate mobile from quantities related to attenuations measured between mobiles and base stations and/or to the signal to interference and noise ratio threshold.

Thus, the load calculation and evaluation is performed for each base station in the network according to a decentralized approach. Further, according to the claimed invention, the load calculation does not depend on the transmit power of the mobiles. In addition, the load calculation may be performed for the mobiles that are served as well as for the mobiles that are seeking to be served. The claimed method evaluates a working condition

representing the feasibility of power allocation to the new mobiles by the base station. Then, the method determines how to treat the new candidate mobiles.

The load calculation of claims 1 and 11 is a function of the individual load contributions calculated for mobiles being served by the base station and candidates to the base station. The known load condition for each base station is evaluated independently. In addition, the claimed invention acquires a new load condition, based on specific parameters, that is adapted to be evaluated for each base station independently. Accordingly, the device and method claimed in claims 1 and 11 is capable of processing each base station independently from the other base stations in order to rapidly provide a load indicator for each base station that is accurate and does not fluctuate.

Rune fails to disclose teach or suggest “for each mobile served by said base station and for each new candidate mobile to said base station, a load calculation function capable of calculating the load induced by said mobile to said base station” as claimed in claim 1 and “calculating a load induced by each mobile served by said base station and by each new candidate mobile to said base station” as claimed in claim 11. Rune is generally directed to WCDMA cellular radio communication. Specifically, Rune discloses a load control algorithm which compares an uplink load to a threshold using a centralized approach. (See ¶¶ 0008, 0043 and 0045.) One objective of Rune is to allow a serving RCN to exchange information related to the load contribution of all mobiles for which it is the serving RCN with all the cells, controlled by another RCN, that are affected by the uplink transmissions of those mobiles. The uplink load (\overline{L}_j) , given by equations (8) and (6) in Rune, clearly depend on the path losses and on the Carrier to Interference Ratio (CIR). Thus, the uplink load (\overline{L}_j) depends on all the mobiles of the network, independent of their serving station. Further, given the particular case where there is neither softer nor soft handover, the load station j as defined by equation (9) of Rune et al. is the sum over ALL mobiles of the target CTIR $\overline{\beta}_i$. Rune considers the plurality of base stations in the network as a whole and evaluates the overall load condition. According to the centralized approach taught in Rune, each base station cannot be processed independently of the others.

In contrast, as set forth in independent claims 1 and 11 a load condition is evaluated for a given base station, and only depends on the load induced by mobiles that are either already being served by the base station or potential candidates of the base station. The claimed calculated load condition does not depend on other mobiles in the network that are served by other base stations.

Further, the load condition in Rune et al. is based on a single calculation involving all the mobiles. In contrast, the present invention as claimed, determines a load calculation function for each mobile and a load condition associated with each base station. Moreover, the load calculation of the present invention is representative of the feasibility of the power allocation to said mobiles by said base station. In contrast, Rune et al. calculations lead to an evaluation of total uplink interference.

M.P.E.P. § 2131 states that “[t]he identical invention must be shown in as complete detail as is contained in the claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Here, Rune fails to disclose, teach or suggest a load condition evaluated for each base station in a network comprising a plurality of base stations, and provides only an overall uplink load calculated by accounting for all of the mobiles in the network. Specifically, Rune fails to disclose teach or suggest “for each mobile served by said base station and for each new candidate mobile to said base station, a load calculation function capable of calculating the load induced by said mobile to said base station” as claimed in claim 1 and “calculating a load induced by each mobile served by said base station and by each new candidate mobile to said base station” as claimed in claim 11.

Accordingly, Applicants respectfully request that the rejection be withdrawn and independent claims 1 and 11 be allowed. Further, claims 2-7 and 12-17 and 21 depend from one of claims 1 or 11 and should therefore be allowed for at least the reasons set forth above without regard to further patentable limitations recited therein.

Claim Rejections under 35 U.S.C. § 103

As stated above, Rune fails to disclose, teach or suggest each and every element of independent claims 1 and 11. Claims 8-10 and 18-20 depend from one of claims 1 or 11 and

should be allowed for the reasons set forth above. Further, Jain fails to cure the deficiencies of Rune et al. Thus, Applicants respectfully request that the rejection be withdrawn and claims 8-10 and 18-20 be allowed.

Response to Arguments

The Examiner's rebuttal states that Rune teaches some specific claim limitations and therefore Rune must anticipate claims 1 and 11. However, the Examiner still has neglected to address with any specificity where Rune discloses "for each mobile served by said base station and for each new candidate mobile to said base station, a load calculation function capable of calculating the load induced by said mobile to said base station" as claimed in claim 1 and "calculating a load induced by each mobile served by said base station and by each new candidate mobile to said base station" as claimed in claim 11. Thus, the Examiner has not met his burden under 35 U.S.C. § 102 and MPEP § 2131.


Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance.


The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By  Reg. No. 59,396

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 672-5416
Facsimile: (202) 672-5399

 Brian J. McNamara
Attorney for Applicant
Registration No. 32,789